

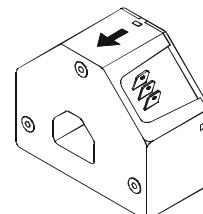
Current Transducer LA 205-S/SP30

$I_{PN} = 300 \text{ A}$

For the electronic measurement of currents : DC, AC, pulsed..., with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).



16133



Electrical data

I_{PN}	Primary nominal r.m.s. current	300	A					
I_P	Primary current, measuring range	0 .. ± 500	A					
$I_{P \text{ max}}$	Measuring overload ¹⁾	600	A					
R_M	Measuring resistance @	$T_A = 70^\circ\text{C}$		$T_A = 85^\circ\text{C}$				
		$R_{M \text{ min}}$	$R_{M \text{ max}}$	$R_{M \text{ min}}$	$R_{M \text{ max}}$			
		with $\pm 12 \text{ V}$	@ $\pm 300 \text{ A}_{\text{max}}$	0	33	0	31	Ω
			@ $\pm 500 \text{ A}_{\text{max}}$	0	6	0	4	Ω
		with $\pm 15 \text{ V}$	@ $\pm 300 \text{ A}_{\text{max}}$	5	52	5	50	Ω
	@ $\pm 500 \text{ A}_{\text{max}}$	5	17	5	15	Ω		
I_{SN}	Secondary nominal r.m.s. current	150	mA					
K_N	Conversion ratio	1 : 2000						
V_C	Supply voltage ($\pm 5 \%$)	$\pm 12 \dots 15$	V					
I_C	Current consumption	20 (@ $\pm 15 \text{ V}$) + I_S	mA					
V_b	R.m.s. rated voltage ²⁾ , safe separation	1625	V					
		basic isolation	3250	V				

Features

- Closed loop (compensated) current transducer using the Hall effect
- Insulated plastic case recognized according to UL 94-V0.

Special features

- $I_{PN} = 300 \text{ A}$
- $I_P = 0 \dots \pm 500 \text{ A}$
- Connection to secondary circuit on Faston 6.3 x 0.8 mm.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference
- Current overload capability.

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , $T_A = 25^\circ\text{C}$	± 0.8	%
ϵ_L	Linearity error	< 0.1	%
I_O	Offset current @ $I_P = 0$, $T_A = 25^\circ\text{C}$	Typ	Max
			± 0.15 mA
I_{OM}	Residual current ³⁾ @ $I_P = 0$, after an overload of $3 \times I_{PN}$		± 0.50 mA
I_{OT}	Thermal drift of I_O - $10^\circ\text{C} \dots + 85^\circ\text{C}$	± 0.15	± 0.30 mA
t_{ra}	Reaction time @ 10 % of I_{PN}	< 500	ns
t_r	Response time ⁴⁾ @ 90 % of I_{PN}	< 1	μs
di/dt	di/dt accurately followed	> 100	A/ μs
f	Frequency bandwidth (- 3 dB)	DC .. 100	kHz

General data

T_A	Ambient operating temperature	- 10 .. + 85	$^\circ\text{C}$
T_S	Ambient storage temperature	- 40 .. + 90	$^\circ\text{C}$
R_S	Secondary coil resistance @	$T_A = 70^\circ\text{C}$	35 Ω
		$T_A = 85^\circ\text{C}$	37 Ω
m	Mass	110	g
		Standards	EN 50178 : 1997

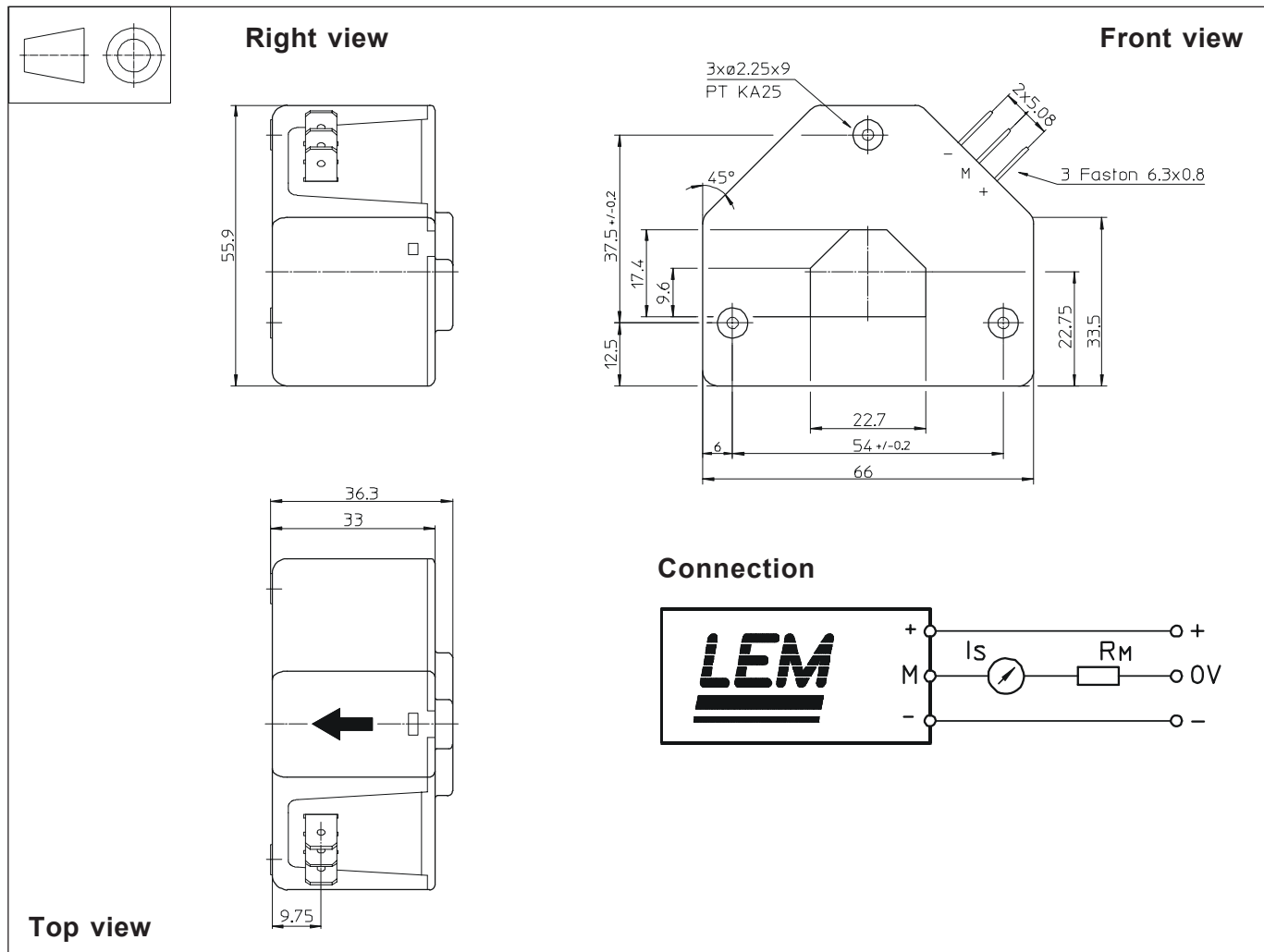
- Notes : ¹⁾ 3 mn/hour @ $V_C = \pm 15 \text{ V}$, $R_M = 5 \Omega$
²⁾ Pollution class 2. With a non insulated primary bar which fills the through-hole
³⁾ The result of the coercive field of the magnetic circuit
⁴⁾ With a di/dt of 100 A/ μs .

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications.

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Dimensions LA 205-S/SP30 (in mm. 1 mm = 0.0394 inch)



Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 3 holes $\varnothing 2.25$ mm
3 PT KA 25 screws
Fastening torque max 0.8 Nm
- Primary through-hole 22.7 x 17.4 mm
- Connection of secondary Faston 6.3 x 0.8 mm

Remarks

- I_s is negative when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100°C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.